Miller, Diane M.

From: Shawn Hughes (Road) [srh@esper.com]
Sent: Tuesday, August 23, 2005 2:51 AM
To: NIOSH Docket Office
Subject: public comment CBRNE APR -

NIOSH letter.doc
(46 KB)

Please find attached my thoughts on your draft document.

Sincerely,

-Shawn

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NIOSH

This letter is in response to the call for public input regarding your draft document:

"D R A F T F O R D I S C U S S I O N, July 8, 2005 ATTENTION, EMERGENCY RESPONDERS: NIOSH Interim Guidance on the Use of Chemical, Biological, Radiological and Nuclear (CBRN) Full Facepiece, Air-Purifying Respirators/Gas Masks Certified Under 42 CFR Part 84; CBRN APR User Guide".

As a lifer in the Public Safety Profession, I feel compelled to share my thoughts on this document with you.

I have spent over 15 of my 35 years responding to calls for service as a Police Officer. I've been trained in Haz-Mat since the 80's, because I foresaw the WMD issue. My last three years have spent teaching others how to respond. In addition to teaching, I've written on WMD and related subjects for almost a dozen peer-reviewed national periodicals, and published a book on the topic. I write a monthly column on WMD and Bomb issues in the largest online Law Enforcement e-zine that is read by over 45,000 Law Enforcement Professionals. I regularly consult for persons and companies wanting to know what WMD gear to get and what to avoid.

So, when I read that you had released your interim guidance on the subject, I was excited to read it.

Overall, I am happy that you are making the effort to help standardize WMD gear. I see a few problems with the document, however. Overall, the document sounds very fire service / industrial hygienic. This is a serious problem, because Law Enforcement doesn't operate like the other two. There is a serious difference in doctrine, training, and culture, and what works for Fire or Haz-Mat won't work for us.

This leads into my first divergence from your proposed standards: 3. NIOSH Recommended Use of CBRN APR 3a. Use Criteria NOTE: ----- EMERGENCY RESPONDERS SHOULD NOT USE THE CBRN APR TO ENTER INTO UNKNOWN ATMOSPHERES OR KNOWN/SUSPECTED IDLH CONCENTRATIONS.

This seems to be a good policy in the laboratory, but its' unworkable in the field.

Fact: Even if The Powers That Be could give away free SCBA's to every Law Enforcement agency in CONUS, you would still not get them on Officers. They are technical items that you couldn't reasonably expect most agencies to be able to maintain, much less train to operate. They are bulky, and take a significant amount of time to don. Finally, as you're aware, the SCBA is only one piece of the ensemble pizza. If they are going to wear SCBA, they also need to be donning adequate impermeable clothing, as well.

On the other hand, many departments are issuing APR's. (Some are so unprotective as to be criminal, but that is another story.) Your standards should recognize, like the military, the basic Patrolman or Private Security Officer will be issued an APR. *Hopefully*, the situation will be that if there is an IDLH concentration, the responders will retreat before being overcome, but this dovetails into the sensor issue. Until there can be low-cost wide-spectrum sensors carried by Patrolmen and Private Security, **ALL** first responders will be entering into an unknown agent / unknown concentration situation 99.5% of the time.

For these reasons, I would like for you to revisit code V.

The next item regards your testing protocols:

"a 15 minute test time against the TRA and a 5 minute high flow test time against the TRA."

I am unsure if this is due to the maximum amount of adsorbent or reactive chemical that can be put into a standard CBRNE canister footprint, but this 15 minute potential life span of a canister is problematic.

Patrolmen and Private Security are not Hazardous Material Specialists. They do not normally possess sensors to determine composition of the agents. For this reason, first responders have to assume the worst agent and hope for the best. This means that first responders only can operate for 15 minutes in a worst case scenario. Since it takes time to decon, this time is even shorter. 15 minutes might be acceptable in an escape-only canister, but it is not workable as a standard CBRNE canister in the field. And, given that many Officers aren't where they need to be cardio-wise, this time limit might be much closer to the 5 minute high-flow limit.

For this reason, your standard for the minimum time to render a canister unusable must be based on the worst potential agent, and must be of a time frame that would allow a "heavy breather" adequate time to investigate an incident. I realize that no one current canister can adequately protect against all agents, but something labeled CBRNE – compliant should come very close for as long as possible.

On this topic, there is mention in your document of training people to use odor detection as an End of Service Life Indicator. This is bad doctrine. There are too many agents and TIC's that have an IDLH well below odor threshold. A better doctrine would be your concept of periodic replacement.

For these reasons, I would like for you to revisit code HH.

Next, I would like to discuss the concept of stowing a CBRNE APR.

Just prior to item 3d, the document states:

"CBRN canisters are to be used for CBRN response events only, not routine industrial use. They are to remain sealed in their original packaging until needed for CBRN response."

This also does not work in the field. Right now, across this country, Patrolmen and Private Security Officers are patrolling. Some of them have, strapped to their thigh, an APR. The canister is NOT in its' protective tuna can or plastic wrapper. It is screwed onto the faceblank, because they are trained that if they suspect a WMD incident, they have scant seconds to don their mask. They do NOT have time to open a can or bag, and screw it onto the faceblank.

I highly suggest a bifurcation of the standard here, one for systems that are deployed with personnel who are secondary personnel, and those who are in an immediate response capacity. The secondary personnel can operate in parallel with typical hazardous materials response protocols, but for the Immediate Response personnel, new language must be adopted to reflect the special circumstances. I recognize that canisters are limited life components, and an integral part of the current systems must be aggressive replacement schemes, but I would also suggest investigating alternate methods of attaching a filter without destroying the patency of its' environment, (i.e, the filter can be snapped onto the mask, but you have to pull a kapton shield to expose the media to the environment.)

I am curious about this:

"k. Do not mount more than one CBRN APR canister on a single CBRN APR at a time. Dual canister use on a CBRN APR voids the NIOSH approval."

There are several PAPR's that are in this configuration. Does this void them? What is the rationale behind this? Two filters would decrease breathing distress from inhalation resistance.

Another issue:

k. Do not use the hydration device in a contaminated environment.

This is counterintuitive. The entire purpose of a hydration assembly is to increase the stay time in a contaminated ensemble without having to decon and doff. The military trains to do this very task. Without the ability to hydrate, stay times will be reduced and heat-related injuries will increase. If it is unsafe, then why are they allowed in a CBRNE-certified APR? If it is available, someone *will* use it.

Fact: The pointy end of the spear never gets the call as a "WMD Incident". They get it as, "respond to the Mall, unknown disturbance," or "assist EMS at an accident". I bring this point up, because many of the things you discuss in this document apply better to teams making a deliberate entry into a hazardous zone. Your standards should recognize that the first responders will be Patrolmen or Private Security, without any advanced sensors or ppe.

Finally, I would like to have seen some dialog about what is unacceptable as a CBRNE mask system. Places are cutting corners; some unknowingly, reference the purchase and deployment of APR's. Since this is a guidance document, I would like to see a block added that states APR's for military use that are no longer in production are unsatisfactory for current WMD response use. I'd also like it to be made an official position that half face respirators are unsuitable for all but very select incidents, and could only be approved by the NIMS IC on a per-case basis. Also, there needs to be verbiage about purchasing non-NIOSH CBRNE canisters for tactical use. There are entirely too many places selling 20 year old Israeli masks and filters for Law Enforcement use.

In closing, I would like to thank you again for all of your hard work in this emerging field. I appreciate your time.

Warm regards,

Shawn Hughes